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| BROOKHAVEN NATIONAL LABORATORY GENERAL CLINICAL RESEARCH CENTER POLICY | GCRC POLICY: IC-16 | PAGE 1 OF 3 |
| | PREPARED BY: B. Pyatt | Infection Control |
| SUBJECT: TUBERCULOSIS EXPOSURE CONTROL PLAN | REVIEWED BY: W. Gunther | GCRC Manager |
| | APPROVED BY: G. J. Wang | Medical Dept. Chair |
| | EFFECTIVE DATE: March 19, 2007 | |
| | REVISION HISTORY : 5 | |

1.0 PURPOSE

This Policy defines the Tuberculosis Exposure Control Plan, the purpose of which is to protect all at risk BNL Health Care Workers (HCW) and GCRC research subjects and to establish infection control policies and procedures that eliminate or minimize occupational exposure to tuberculosis (TB).

2.0 DRIVERS

- 2.1 DOE Order 440,1a Worker Protection Management for DOE Federal and Contractor Employees; CRD Chapter 19-Occupational Medicine
- 2.2 OSHA Proposed Rule Occupational exposure to tuberculosis; Federal Register 62:54159-54309, 10/17/1997.
- 2.3 CDC Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health-Care Facilities, 1994; MMWR 43(RR-13): i-132, 1994.
- 2.4 CDC/Hospital Infection Control Practices Advisory Committee. Guidelines for infection control in health care personnel, 1998. Am. J. Infect. Cntrl.26:289-354. 1998.
- 2.5 Core Curriculum on Tuberculosis, Fourth Edition, 2000 CDC
- 2.6 Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection MMWR (CDC) 49(RR-6):1-2. June 9, 2000.

3.0 RISKS

Brookhaven National Laboratory's GCRC is a **low risk** institution by the following definitions.

Low Risk:

- 3.1. <6 TB patients hospitalized per year.
- 3.2. PPD conversion rate \leq areas/groups without occupational TB exposures or previous rate.
- 3.3. No PPD conversion clusters
- 3.4. No evidence of subject-subject transmission.

Intermediate Risk:

- 3.1. >6 TB patients hospitalized per year.
- 3.2. PPD conversion rate \leq areas/group without occupational TB exposure or previous rate
- 3.3. No PPD conversion clusters
- 3.4. No evidenced of patient-to-patient transmission.

High Risk:

- 3.1. >6 TB subjects hospitalized per year.
- 3.2. PPD conversion rate > areas/group without occupational TB exposure or previous rate.
- 3.3. There are PPD conversion clusters. (2 + in an area/occupational group over 3 months).
- 3.4. There is evidence of subject-subject/HCW transmission

In addition, BNL is located in Suffolk County, N.Y. which reported a case incidence rate of 5 per 100,000 during 2000, the most recent year for which figures are available. This rate is below the national average of 6.9 cases per 100,000.

Diagnostic Risk:

- 3.1 Positive PPD skin test (greater than 10mm induration, 5 mm if in the high risk group)
- 3.2 Productive cough X six (6) weeks
- 3.3 Fever, night sweats for greater than three (3) months
- 3.4 Immigrated from an area where TB is endemic(i.e., Asia, Mexico, South America, Africa) and has been in the US for less than five (5) years
- 3.5 Has a history of ETOH abuse or IV drug abuse
- 3.6 Has a suspect chest X-ray or lungs show an infiltrate on X-ray
- 3.7 Homeless and/or has recently been a prison or jail inmate
- 3.8 Has a compromised immune system: HIV-infected, on immunosuppressive therapy
- 3.9 A person who has had close contact with an individual with TB

4.0 BNL EMPLOYEES ONLY

The Occupational Medicine Clinic screens all employees at exposure risk for the presence of inactive or active

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|---|-----------------|-------------|
| BROOKHAVEN NATIONAL LABORATORY CLINICAL RESEARCH CENTER POLICY | NUMBER: IC-16/5 | |
| | DATE | PAGE 2 OF 3 |
| Tuberculosis Exposure Control Plan | | |

Tuberculosis at the time of employment and at least annually thereafter. The TB program will also include any GCRC employee who is exposed to a non-isolated subject having active Tuberculosis. They shall be referred to OMC by their supervisors, the Quality Assurance Physician or the Responsible Physician. Annual PPD testing is required for all individuals without contraindications who are on the Health Care Worker 1 and Health Care Worker 2, Fire/EMT and Primate/BLAF Staff.

5.0 HCW'S (NON BNL EMPLOYEES)

Non-BNL employees who have direct contact with research subjects will provide documentation to OMC verifying that TB screening was done at another facility. If that is not possible, the screening will be done through OMC.

6.0 ALL GCRC HCW'S

- 6.1. Complete required skin testing at a minimum annually, or more frequently based on the risk assessment.
- 6.2. Report incidents of occupational exposure to the supervisory chain and complete appropriate follow-up with Occupational Medical Clinic.

7.0 SIGNS/SYMPTOMS OF TB

7. 1. Persistent cough (>2 weeks duration) along with:
 - a. Weight loss
 - b. Night sweats
 - c. Bloody sputum
 - d. Anorexia
 - e. Fever

8.0 HEALTH CARE WORKER (HCW) RESPONSIBILITIES

- 8.1. Seek medical evaluation if symptoms develop.
- 8.2. Notify OMC if PPD test converts
- 8.3. Notify OMC if diagnosed with Active TB
- 8.4. Notify OMC if immunocompromised and at risk of contracting infection/developing disease so that work assignment can be modified. .

9.0 RESTRICTIONS FOR HCW'S WITH ACTIVE TB

HCW's with pulmonary or laryngeal TB will be excluded from work until cleared by OMC or private physician or clinic as being non-infectious.

10.0 PARTICIPANT DETECTION/TREATMENT AND TRANSPORTATION

10.1 Any subject/participant with symptomology consistent with pulmonary TB shall immediately be referred to his/her private physician or to a local hospital or clinic. Also, the Suffolk County Department of Health shall be called. The subject will be encouraged to cover his/her mouth with a surgical mask N-95 when coughing/sneezing.

11.0 POTENTIAL OCCUPATION EXPOSURE TO TB

- 11.1. Cough inducing procedures
 - a. Bronchoscopy
 - b. Endotracheal Intubation
 - c. Suctioning with mechanical ventilation
 - d. Sputum induction/aerosol treatments
- 11.2 Open abscess irrigation
- 11.3. Autopsy
- 11.4. Close contact with infectious subjects/participants
- 11.5. Waiting Areas where subjects/participants with suspected TB are located

12.0 RECORDS

The GCRC shall maintain the records for the subjects in a secure manner. The contents will not be disclosed or reported to any person within or outside the workplace without the subject's express written consent except as required by law. All OMC policies, procedures and records are kept on file at the OMC.

13.0 DEFINITIONS

Acid-Fast Bacilli (AFB)-Bacteria that retain certain dyes even when washed with an acid solution. Most acid-fast organisms are mycobacteria. When seen on a stained smear of sputum or other clinical specimen, a diagnosis of TB should be considered; however, the diagnosis is not confirmed until a culture is grown and identified as M. tuberculosis.
Aerosolization-In TB, it refers to the infectious droplet nuclei that are expelled from a person which can be transmitted to other people.

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|---|-----------------|-------------|
| BROOKHAVEN NATIONAL LABORATORY CLINICAL RESEARCH CENTER POLICY | NUMBER: IC-16/5 | |
| | DATE | PAGE 3 OF 3 |
| Tuberculosis Exposure Control Plan | | |

in HEPA(High Efficiency Particulate Air) Filter-Specialized filter that is capable of removing 99.97% of particles 0.3 microns diameter. It may be of assistance in control of TB transmission.

Infection-The condition in which organisms capable of causing disease (e.g., M. tuberculosis) multiply within the body and cause a response from the host's immune defenses. Infection may not lead to clinical disease.

Infectious-Capable of causing infection. In TB, a person is infectious only if he/she has clinically active TB. TB patients whose sputum is AFB smear positive are often infectious.

Positive PPD Reaction-A reaction to the purified protein derivative (PPD) test that suggests the individual tested is infected with the tubercle bacilli. Determination of the reaction is largely dependent on interpretation by the person evaluating the test, given the patient's or HCW's medical history and risk factors.

Tuberculosis-a Clinically apparent active disease process caused by Mycobacterium tuberculosis complex.

Tuberculosis Infection-A condition in which living tubercle bacilli are present in the body, without producing clinically active disease. Although the infected individual has a positive tuberculin reaction, he/she has no symptoms related to the infection and is not infectious. However, the infected individual remains at lifelong risk of developing disease unless preventive therapy is given

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